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Vol. VI

TRANSCRIPT OF RECORD

(Pages 1593 to 1618)

Supreme Court of the United States

OCTOBER TERM, 1945

No. ~~290~~ 24

HALLIBURTON OIL WELL CEMENTING COMPANY, PETITIONER,

vs.

CRANFORD P. WALKER AND CRANFORD P. WALKER, D. A. WALKER, ET AL., DOING BUSINESS AS DEPTHOGRAPH COMPANY, COPARTNERSHIP

ON WRIT OF CERTIORARI TO THE UNITED STATES CIRCUIT COURT OF APPEALS FOR THE NINTH CIRCUIT

PETITION FOR CERTIORARI FILED AUGUST 2, 1945.

CERTIORARI GRANTED OCTOBER 15, 1945.

No. 10513

IN THE

United States Circuit Court of Appeals

For the Ninth Circuit

HALLIBURTON OIL WELL CEMENTING COMPANY, a Delaware corporation,

Appellant,

vs.

CRANFORD P. WALKER and CRANFORD P. WALKER, D. A. WALKER, ROBERT P. MILLER, and MILO C. KETCHUM, doing business as Depthograph Company, a copartnership,

Appellees.

CRANFORD P. WALKER and CRANFORD P. WALKER, D. A. WALKER, ROBERT P. MILLER, and MILO C. KETCHUM, doing business as Depthograph Company, a copartnership,

Appellants,

vs.

HALLIBURTON OIL WELL CEMENTING COMPANY, a Delaware corporation,

Appellee.

Upon Appeals from the District Court of the United States for the Southern District of California, Central Division

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PROCEEDINGS HAD IN THE UNITED STATES CIRCUIT COURT OF APPEALS FOR THE NINTH CIRCUIT

United States Circuit Court of Appeals
for the Ninth Circuit

Excerpt from Proceedings of Wednesday, March 29, 1944.

Before: Denman, Stephens and Healy,
Circuit Judges.

[Title of Cause.]

ORDER OF SUBMISSION

Ordered appeals herein argued by **Mr. Earl Babcock**, counsel for Halliburton Oil Well Cementing Company, and by Mr. Harold Mattingly, counsel for Walker, et al., and submitted to the Court for consideration and decision.

United States Circuit Court of Appeals
for the Ninth Circuit

Excerpt from Proceedings of Thursday, December 28, 1944.

Before: Denman, Stephens and Healy,
Circuit Judges.

ORDER DIRECTING FILING OF OPINION AND FILING AND RECORDING OF DECREE

By direction of the Court, Ordered that the typewritten opinion this day rendered by this Court in above cause be forthwith filed by the clerk, and that a decree be filed and recorded in the minutes of this court in accordance with the opinion rendered.

[Title of Circuit Court of Appeals and Cause.]

Upon Appeals from the District Court of the United States for the Southern District of California, Central Division

Before: Denman, Stephens, and Healy, Circuit Judges

Healy, Circuit Judge

OPINION

Involved here are cross appeals from a decree in an infringement suit. The court held valid and infringed two patents of Walker, these being No. 2,156,519 and reissue No. 21,383. It adjudged invalid Walker's patent No. 2,209,944.

For convenience we shall refer to the adverse parties as Walker and Halliburton, Walker being the plaintiff. The several patents will be discussed in turn.

Patent No. 2,156,519.[1] The object of this invention is to measure the location of obstructions in oil wells, with particular reference to apparatus for determining the location below the well head of the fluid surface, or the location of tools, pipe sections or couplings which constrict the well bore. The patent is avowedly an improvement on a prior invention covered by Patent No. 2,074,974 issued to Lehr and Wyatt, July 21, 1936. The latter is both a method and an apparatus patent. Some discussion of its nature is essential to an understanding of the character and extent of the refinements thereon claimed by Walker.

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[1] Applied for Sept. 7, 1937; issued May 2, 1939.

The Lehr and Wyatt patent has as its object the ascertaining of the distance from the well head to the fluid surface.[2] It employs what is called the "impulse wave" principle, which consists in generating a wave by causing a sudden change in pressure at the well head. A quick-opening valve releases gas into the well and the impulse, moving with the sped of sound, travels down the well until it reaches the fluid surface from which point it returns after the manner of an echo. According to the specifications, the total elapsed time between the release of the impulse wave and its return may be observed or indicated "in any desired manner," it being said that the puff may be felt with the bare hand and the elapsed time measured with a stop watch. The inventors suggested the employment of a recording system such as a microphone, an amplifier, and an indicating or recording device, but they did not specify or claim any system of recording.

A difficulty with the Lehr and Wyatt method lies in the variations in the velocity at which the impulse wave travels down and back. An elaborate formula is given for computing the velocity so as to take into account the temperature and pressure of the gas in the well; but the formula is not very accurate since it makes no allowance for variations of temperature and pressure in different parts of the well.

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[2] This, of course, can be done mechanically, but the doing of it usually entailed the removal from the well of tools, pumping apparatus, etc.

Among the stated objects of the Walker patent now under discussion are included several not mentioned by Lehr and Wyatt. These have to do with the location of obstructions in the well other than the fluid surface; the providing of a recording system which is specified and claimed; and the measurement of the velocity of the impulse wave by checking its elapsed time against that of an echo received from some obstruction the location of which (that is, its distance from the well head) is exactly known. Walker points out that one may determine the velocity of the impulse by timing the interval between its release and the return of the echo from, for example, the tubing catcher, the location of which happens to be known. Given the distance and the time, the velocity may be determined with great accuracy. The process obviates the employment of formulas and the necessity of making corrections for variations of pressure and temperature within the well. The success of the system depends upon the operator's obtaining an identifiable echo from an obstruction of known location, that is, an echo which may be differentiated from the echo sent back by the fluid surface or other obstruction the location of which is not known but which it is desired to determine.

Walker provides a recording apparatus and describes it in much detail. The apparatus or system claimed is old, as indeed are all the other elements of his combination. For present purposes the recording apparatus need not be described fur-

ther than to say it utilizes a diaphragm, a mirror, a light beam, and a strip of film which moves along in the manner of a recording barometer. Peaks of varying amplitude will be shown on the record, each representing an echo.

We are chiefly concerned here with the step precedent to that of recording. It will be appreciated that in the typical oil well there is a plurality of obstructions, each capable of receiving and reflecting a pressure wave. These include the fluid surface, the collars of the sections of the tubing string through which the oil is brought to the surface, and what is termed the tubing catcher. Walker provides a means of amplifying those echoes desired to be recorded and of damping or filtering out those not desired to be recorded.

There are 17 claims. Claims 1 and 14, being among those in suit, are typical. These are as follows:

"1. In an apparatus for determining the location of an obstruction in a well having therein a string of assembled tubing sections interconnected with each other by coupling collars, means communicating with said well for creating a pressure impulse in said well, echo receiving means including a pressure responsive device exposed to said well for receiving pressure impulses from the well and for measuring the lapse of time betwen the creation of the impulse and the arrival of said receiving means of the echo from said obstruction, and means associated with said pressure responsive device for tuning said receiving means to the fre-

quency of echoes from the tubing collars of said tubing sections to clearly distinguish the echoes from said couplings from each other."

"14. In an apparatus for determining the unknown location of an obstruction in a well having a string of assembled tubing sections therein connected by couplings, means communicating with said well for creating a pressure impulse in said well to produce echoes of said impulse from couplings and other obstructions in said well, pressure responsive echo receiving and registering means coupled to said well to expose said receiving and registering means to pressure variations in said well produced by echoes from said obstructions, and interference eliminating means associated with said receiving and registering means for limiting the response of said receiving and registering means to the registration of echoes from actual obstructions in the well whereby the registered echoes of the tubing couplings may be readily distinguished from each other and from the echoes from other actual obstructions in the well."

The means provided by Walker for amplifying those vibrations desired to be shown as peaks on the chart, and of damping out those not desired to be recorded, is an adjustable tuning pipe, that is, one that may be adjusted by lengthening or shortening it. As is well known, the length of the pipe determines the frequency of the vibrations and the diameter determines their amplitude. The operator of the apparatus watches the echoes as they are

thrown in the form of wavy peaks on the ground-glass screen of the recording device, and adjusts the pipe until he has it of such length that it amplifies the harmonics from the tubing collar echoes while at the same time damping out the peaks caused by echoes of different frequencies.

The trial court found that the only part of this patent constituting invention over the prior art is the "tuned acustical means which performs the functions of a sound filter." It will be noted that Walker's acoustical tuned resonator is a purely mechanical device.

Halliburton, in its allegedly infringing device, employs an electrical filter. The court found that this electrical filter is the equivalent of the acoustical tuned resonator of Walker, and that when the electrical filter is used by Halliburton its apparatus infringes claims 1, 13, 14, 15 and 17 of the patent in suit. Halliburton contests the validity of the Walker patent and denies infringement.

Walker made a very substantial improvement over Lehr and Wyatt, notwithstanding it is conceded that both his recorder and his amplifier, considered by themselves, are old in the art. We think the patentee displayed a measure of inventive genius entitling him to patent protection. He has combined features which achieve a new result, or at least an old result in a better way. Cf Bates v. Coe, 98 U. S. 31, 39; Walker on Patents (Deller's Ed.) Vol. 1, p. 255, and cases there cited. While Lehr and Wyatt suggest an amplifier, they neither sug-

gest nor claim any device which would enable the operator to tune up certain desirable echoes while tuning out undesirable ones. The utility of this feature of Walker's patent is not denied.

Other prior patents cited by Halliburton, as for example the patent of Tucker, No. 1,351,356, which was to aid in locating the source of gunfire, were not designed to perform the same function as Walker's tuning device, and would not, without the addition of other elements, serve the purposes of the Walker patent. The Tucker patent mentioned was among the examples of the prior art cited by the examiner. We think, too, that Walker specified and claimed his improvements with sufficient distinctness and clarity to comply with the statute.

We turn now to the question of infringement. Halliburton's device is called the "Echo-Meter Field Manual." Briefly, the echo-meter consists of a Y-pipe into which a gun is fired to create an acoustical wave, which is the pressure impulse. The wave goes down the well and upon its return enters the other branch of the Y, where it impinges upon a microphone which changes the pressure variations into variations of electrical current. This current is of sufficient strength to move a pen-and-ink recorder over a tape, upon which it makes a permanent record consisting of wavy lines the peaks of which indicate the echoes from the various obstructions and the fluid level.

Between the microphone and the recorder itself is an electrical system which performs some, at

least, of the filtering and echo-differentiating functions of Walker's acoustical system. It consists first of a hot-wire microphone, which is a grid of fine wire electrically heated. The wire is of a kind which is very responsive to temperature changes. The reflected waves from the tubing collars and the fluid level pass across these wires, and the cooling effect of these slight tremors changes the resistance of the wires markedly. The minute electrical signal caused by the change in resistance is introduced into the input of the amplifier and amplifies the current to a level high enough to operate the recorder. The microphone is most responsive to the low frequency changes in pressure such as are caused by the firing of a blank cartridge. The amplifier not only amplifies the small electrical variations in the circuit, but also suppresses to some extent the high-frequency waves which result from extraneous disturbances not desired to be recorded.

Halliburton's argument of noninfringement is based primarily on the indisputable fact that it uses an electrical apparatus, whereas Walker's is mechanical. Where different means are used to accomplish the same end or to perform the same function, the question of infringement depends upon the mode of operation as well as on the sameness of the result.[3] While identity of result is of course not a sufficient test of infringement, nevertheless an infringing device, generally speaking, is one which

[3] Cf. Walker on Patents (Deller's Ed.) Vol 3, pp. 1745, 1750.

"does the same work in substantially the same way and accomplishes substantially the same result." Walker on Patents (Deller's Ed.) Vol. 3, pp. 1707, 1751. The question is whether Halliburton's device is substantially the equivalent of Walker's.

In a measure the problem here is one of appraising the advance in the art effected by Walker. The generalities of the problem have not been better stated than by the Court in Eibel Co. v. Paper Co., 261 U. S. 45, 63: "In administering the patent law the court first looks into the art to find what the real merit of the alleged discovery or invention is and whether it has advanced the art substantially. If it has done so, then the court is liberal in its construction of the patent to secure to the inventor the reward he deserves. If what he has done works only a slight step forward and that which he says is a discovery is on the border line between mere mechanical change and real invention, then his patent, if sustained, will be given a narrow scope and infringement will be found only in approximate copies of the new device. It is this differing attitude of the courts toward genuine discoveries and slight improvements that reconciles the sometimes apparently conflicting instances of construing specifications and the finding of equivalents in alleged infringements."

A detailed comparison of the mode of operation, function, and result achieved by the respective devices with which we are here concerned would expand this opinion to undue lengths. The over-all picture already attempted is perhaps more helpful

than a piecemeal analysis of the several elements of the combinations. It is certain that there is a substantial identity of function between the two. Both the tuning pipe and the electrical filter have the property of amplifying certain vibrations and eliminating others. The result to be achieved is likewise the same in both cases in that only certain vibrations, which will cause certain peaks to appear on a graph, are permitted to reach the recording apparatus.

The trial court's finding of substantial identity between the tuned acoustical means of Walker and the electrical filter of Halliburton is supported by the testimony of experts. We are not disposed to say that the finding is clearly erroneous. While Halliburton's device is by no means a Chinese copy of Walker's we think the Walker patent is entitled to a liberal construction and to a fair range of equivalents.

Apart from expert testimony, the finding of equivalency appears to have support in statements of the Patent Office Examiner made during the course of repeated rejections of an application of Walker's for an electrical impulse receiving and tuning device. The Examiner referred to No. 2,156,519, which had already issued, saying "The Walker patent discloses means for tuning mechanically to the selected echo, but it is obvious that electrical tuning could be used instead in a system comprising an electrical receiving circuit . . . . The equivalence of electrical tuning and mechanical tuning for selective reception was thought to be so generally

recognized that citation of an illustrative reference was not considered necessary."

Patent No. 2,209,944.[1] The court held this patent invalid for want of invention, finding that its novelty lay only in the performance of certain mental steps.

This is a method patent. The steps involved are described in the claims by the following descriptive words "determining," "registering," "counting," "observing," "measuring," "comparing," "recording," "computing." There are 9 claims, all of which are in suit. Claim 2, copied below, may be taken as typical:

"2. The method of determining the unknown location of an obstruction in a well having a string of tubing therein, which consists in creating an acoustical impulse in the annular space between the tubing and the well casing to produce echoes from portions of the tubing string distinguishable from each other and from the echo from the unknown obstruction, observing the lapse of time between the arrival at a predetermined point of the echoes from successive portions of the tubing string to thereby determine the velocity of the pressure wave through the particular well under measurement, and measuring the lapse of time between the creation of the pressure impulse and the arrival at said predetermined point of the echo from the unknown obstruction."

In substance, Walker's method here claimed con-

[1]Applied for Sept. 25, 1939; issued July 30, 1940.

sists in setting down three knowns in a simple equation and from them determining or computing an unknown. The three knowns are: (a) the distance from the well head to the tubing catcher (for example); (b) the length of time it takes an echo to return from that obstruction; and (c) the length of time it takes an echo to return from the fluid surface. From these three knowns can then be determined the distance of the fluid surface from the well head.

We think these mental steps, even if novel, are not patentable. Cf. Don Lee, Inc. v. Walker, 9 Cir., 61 F. 2d 58. A patent may be obtained only upon an invention of a "new and useful art, machine, manufacture, or composition of matter." 35 USCA §31. As said in Cochrane v. Deener, 94 U. S. 780, 788: "A process is a mode of treatment of certain materials to produce a given result. It is an act, or a series of acts, performed upon the subject-matter to be transformed and reduced to a different state or thing. If new and useful, it is just as patentable as is a piece of machinery. In the language of the patent law, it is an art." Cf. also Corning v. Burden, 15 How. 252, 267.

It must be remembered that this is purely a method patent. No apparatus is claimed. Given an apparatus for initiating an impulse wave in a well and a means for differentiating between and for recording echoes returned from obstructions in it, anybody with a rudimentary knowledge of arithmetic will be able to do what Walker claims a monopoly

of doing. If his method were patentable it seems to us that the patentee would have a monopoly much broader than would the patentee of a particular apparatus. To sum the matter up, we think Walker's apparatus patent No. 2,156,519 gives him all the protection his inventive genius entitles him to.

Reissue No. 21,383. This is a method patent, held valid and infringed by the trial court. It is a reissue, dated March 5, 1940, of No. 2,161,733 on methods of determining the fluid density, fluid pressure and potential production capacity of oil wells. The claims, of which there are 11, are all in suit. They include five claims on methods for determining the density of the fluid in the standing column, four for determining the pressure at any desired point below the fluid surface while the pump is operating, and two, numbers 8 and 11, for determining the potential production capacity of the well. One claim typical of each group is set out in the footnote.[5] The

[5] "5. The method of determining the density of the standing column of fluid in an oil well having a casing and a mechanical pump suspended therein upon pump tubing and without requiring the removal of pump parts, which consists in the steps of operating the pump under one stable condition of gas pressure in the casing until the fluid level becomes stable, measuring the distance between the casing head and the surface of the fluid under this stable condition, altering the casing pressure to a new condition, operating the pump at the same rate of production under the new condition of gas pressure to again stabilize the fluid level, measuring the distance between the casing head and the new level of the fluid surface under said new stable condition, and measuring the casing head pressures under the

steps involved in carrying out the methods are described, as were those in No. 2,209,944, by descriptive words.

Fluid pressure had previously been determined by methods which required the removal from the well bore of pump and tubing. Walker eliminates this difficulty very simply. He first determines the pressure on the fluid surface, in this fashion: he locates the fluid surface in the manner described by Lehr

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two stable conditions, whereby the pressure exerted by the fluid per unit of height of the fluid is represented by comparing the difference in height of the fluid surface levels and the difference between the pressures on the fluid surface required to maintain the fluid surface at the two levels."

"7. In a well having a casing and a pump suspended therein, the method of determining the unknown pressure exerted in the standing column of fluid at any desired level below the normal surface of said column while the pump is operating to remove fluid from the well, which comprises measuring the actual stable level of the fluid under one known condition of gas pressure in the well by sonic sounding method, determining the pressure on the fluid surface at that level, changing the pressure of the gas in the well to move the surface of the column to a new actual level, continuing to operate the pump at the same production rate as for the first condition of gas pressure in the well until the fluid level again becomes stable, measuring the new stable level and determining the pressure upon the fluid surface at this new level, determining the pressure exerted per unit of height of the fluid column by dividing the change in gas pressure on the fluid surface required to effect the change in the fluid level by the difference in height of the two levels, and computing the unknown pressure at the desired level by adding to the gas pressure upon the

and Wyatt or by No. 2,156,519; he notes the specific gravity and pressure of the gas at the casing head, and a few simple arithmetical steps and the use of a formula avowedly old in the art then give the pressure on the fluid surface in terms of whatever units of measurement are desired to be used. The operator next determines the fluid density: building up the gas pressure above the fluid surface forces

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fluid surface at either of the actual levels the effect in pressure of the fluid column between the selected actual level and the desired level."

"11. The method of determining the potential production capacity of a well having a casing and a pump suspended therein, which comprises: determining the pressure exerted by the well fluid at some selected point below the normal surface thereof under one known rate of production, by determining the location of the fluid surface under one condition of gas pressure on the surface, determining the gas pressure on the fluid surface under said one condition, changing the gas pressure to move the fluid surface to a new stable level under the same production rate, determining the new gas pressure on the fluid surface, determining the location of the new surface level, comparing the difference in said gas pressures with the corresponding change in height of the surface level, to thereby ascertain the pressure exerted at said selected point under said one rate of production; changing the rate of production from said well; repeating the steps of determining the location of the fluid surface at two stable levels and the gas pressures on said surface to maintain said levels under the new production rate to ascertain the pressure exerted at the same selected point; and comparing the difference in the production rates with the corresponding difference in pressures at said selected point to determine their relation from which the maximum rate of production from the well may be determined."

down the latter, and the pressure on the new fluid surface is determined in the manner just outlined; the difference between the two pressures is divided by the difference between the two fluid levels, and the quotient is the density of the fluid, that is, the pressure exerted by the fluid per unit of height of the standing column.

The fluid pressure at any point below the fluid surface, as for instance at the pump inlet, may now be found either by plotting the information already obtained on a graph and extrapolating, or by the use of a rather involved, but mathematically elementary, formula.

Potential production capacity is found in this manner: pump inlet pressure is determined when the pump is operating at two different known rates, and the relation between the two rates of production and the two pressures at the inlet gives a constant which indicates that there exists a fixed ratio between pressure and production. This constant is then employed at a theoretical zero pump inlet pressure, and the corresponding production rate will be the maximum for that well. That this must be so will be readily understood, for the oil cannot be pumped out of the well any faster than it flows in, while if it is removed less fast than it flows in from the oil-bearing sands, the flow in must buck the pressure downwards which results from the slower removal of the oil. This determination may also be made graphically, according to the patent.

What we have said about the mental steps detailed No. 2,209,944 applies with equal force to

the steps we have described here. While their compilation may have elements of novelty, we do not think it involves patentable invention.[6] Thus ascertaining the fluid density involves making a preliminary determination (the location of the fluid surface) by a method old in the art, and then making a series of the simplest sort of arithmetical steps based on the assumption, of dubious validity,[7] that the density of the fluid column is constant throughout its height. Pressure below the fluid surface is then found by applying the information already obtained to the performance of other simple computations, aided by the use of formulae old in the art. Finally, finding the potential production capacity

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[6] Prior art publications by Hawthorn (Subsurface Pressures in Oil Wells and Their Field of Application, 1933) and Vietti (Density of Oil-Gas Columns from Well Data, 1930), among others, deal with the determination of the specific gravity and density of the fluid column. Indeed, Hawthorn describes a method of extrapolating the density curve in order to learn fluid pressure which is very close to the method described in the patent in suit. It seems clear that only the non-existence at the time these articles were written of a good method of locating the fluid surface prevented the authors from working out every step described in No. 21,383, and it will be recalled that it was Lehr and Wyatt, not Walker, who taught how to locate the fluid level.

[7] Walker alleges that he was the first to discover this phenomenon; it is agreed that petroleum engineers had theretofore thought fluid density increased with the distance from the fluid surface. Halliburton controve[illegible] the validity of the alleged discovery, and Walke[illegible]tes no authority except his own observations to prove his thesis.

of the well involves neither formulae nor further observations, but simply a little more elementary arithmetic. In fact, it appears to us that claims 8 and 11 are but statements of the ultimate objects sought to be accomplished by the patent, and summaries of that which had been detailed in the claims having to do with pressure and density.

Walker argues strenuously in defense of this patent that the use of the word 'determining,' the key participle both in this and in the method patent No. 2,209,944, does not limit him to mere arithmetical processes. The difficulty with this argument is that no other method of making the determinations of pressure, density and production capacity is suggested except the graphic one, and it is well understood that a graph may be used to define mathematical formulae and processes as accurately as numbers or symbols.

The judgment, insofar as it adjudges Reissue No. 21,383 valid and infringed, is reversed. In all other respects it is affirmed.

[Endorsed]: Opinion. Filed Dec. 28, 1944. Paul P. O'Brien, Clerk.

United States Circuit Court of Appeals
For the Ninth Circuit

No. 10513

HALLIBURTON OIL WELL CEMENTING CO.,
Appellant,

vs.

CRANFORD P. WALKER, et al.,
Appellees.

CRANFORD P. WALKER, et al.,
Appellants,

vs.

HALLIBURTON OIL WELL CEMENTING CO.,
Appellee.

DECREE

Appeals from the District Court of the United States for the Southern District of California, Central Division.

This cause came on to be heard on the Transcript of the Record from the District Court of the United States for the Southern District of California, Central Division, and was duly submitted.

On Consideration Whereof, it is now here ordered, adjudged, and decreed by this Court, that the.....decree of the said District Court in this cause insofar as it adjudges Reissue No. 21,383 valid and infringed, be, and hereby is reversed and that the decree of the said District Court in all

other respects be, and hereby is affirmed, without costs in this court to either party.

[Endorsed]: Filed and entered Dec. 28, 1944. Paul P. O'Brien, Clerk.

United States Circuit Court of Appeals
for the Ninth Circuit

Excerpt from Proceedings of Monday, June 11, 1945

Before: Denman, Stephens and Healy,
Circuit Judges.

[Title of Cause.]

ORDER DIRECTING FILING OF OPINIONS ON PETITON FOR REHEARNG AND DENYING PETITION

By direction of the Court, Ordered that the per curiam opinion and concurring opinion of Denman, Circuit Judge, on petition for rehearing be forthwith filed by the clerk.

Upon consideration of the petition of Halliburton Oil Well Cementing Company, filed January 27, 1945, and within time allowed therefor by rule of court, and of the reply of Walker, et al., thereto, filed February 10, 1945, and by direction of the Court, It Is Ordered that said petition for rehearing be, and hereby is denied.

[Title of Circuit Court of Appeals and Cause.]

UPON PETITION FOR REHEARING

Before: Denman, Stephens, and Healy,
Circuit Judges Per Curiam

PER CURIAM OPINION AND CONCURRING

In its petition for rehearing appellant, Halliburton Oil Well Cementing Company, assumes that the court in ruling on Walker's patent No. 2,156,519 failed to consider the cases of General Electric Co. v. Wabash Appliance Corp., 314 U. S. 364, and Davis Sewing Mach. Co. v. New Departure Mfg. Co., 217 Fed. 775, particularly the first of these decisions. Halliburton is mistaken. In the General Electric case the claim considered was not one for a combination of elements, but a claim for a single element. Here, the claims are for a combination of elements. They sufficiently define the limits of the inventon to enable those havng knowledge of acoustics and of the principles of the physics of sound to determine what is covered and what is beyond the scope of the claimed invention.

Petition for rehearing is denied.

Denman, Circuit Judge, concurring in the denial of the petition for rehearing:

Appellant's principal contention on its petition for rehearing concerns the patenting of a combination of functional means such as claimed in typical claims 1 and 14, cited in the opinion.

Claim 1 is for a combination in "[A] an apparatus for determining the location of an obstruction in a well having therein a string of assembled tubing sections interconnected with each other by coupling collars"

of the following three "means," with

[B] "means communicating with said well for creating a pressure impulse in said well," and

[C] "echo receiving means including a pressure responsive device exposed to said well for receiving pressure impulses from the well and for measuring the lapse of time between the creation of the impulse and the arrival of said receiving means of the echo from said obstruction," and

[D] "means associated with said pressure responsive device for tuning said receiving means to the frequency of echoes from the tubing collars of said tubing sections to clearly distinguish the echoes from said couplings from each other."

Each of B, C and D describes a function but, appellant contends, fails to describe how the apparatus is to perform the function, as required by R.S. 4488, 35 U.S.C. § 33, cf. General Electric Co. v. Wabash, 304 U.S. 364, 368.

No case is cited in which such a combination of means alone has been sought and the case seems of novel import. It is apparent that a combination of three means is valid only if a combination of all the various means for accomplishing each of the three functions is to be deemed included in the claim. It would establish invalidity of the patent if prior thereto any one of the several means of

each of the all-inclusive means so had been combined.

Appellant has shown no such prior combination of any one of each of the three means. General Electric Co. v. Wabash, supra, is distinguishable. Unlike the instant patent for a combination, the patent there was for a specific product and its production was described in functional instead of a specific physica determinant. Since the combination of all such means has novelty and usefulness, I agree in the denial of the petition for rehearing.

[Endorsed]: Per curiam Opinion and Concurring Opinion upon petition for rehearing. Filed Jun. 12, 1945. Paul P. O'Brien, Clerk.

United States Circuit Court of Appeals
for the Ninth Circuit

CERTIFICATE OF CLERK, U. S. CIRCUIT COURT OF APPEALS FOR THE NINTH CIRCUIT, TO RECORD CERTIFIED UNDER RULE 38 OF THE REVISED RULES OF THE SUPREME COURT OF THE UNITED STATES.

I, Paul P. O'Brien, as Clerk of the United States Circuit Court of Appeals for the Ninth Circuit, do hereby certify the foregoing Transcript of Record in Six Volumes consisting of sixteen hundred sixteen (1616) pages, numbered from and including 1 to and including 1616 together with original exhibits transmitted herewith, to be a full, true and correct copy of the entire record of the above-entitled case in the said Circuit Court of Appeals, made pursuant to request of counsel for the Halliburton Oil Well Cementing Co., and certified under Rule 38 of the Revised Rules of the Supreme Court of the United States, as the originals thereof remain on file and appear of record in my office.

Attest my hand and the seal of the said the United States Circuit Court of Appeals for the Ninth Circuit, at the City of San Francisco, in the State of California, this 6th day of July, 1945.

[Seal] PAUL P. O'BRIEN,
Clerk

SUPREME COURT OF THE UNITED STATES

ORDER ALLOWING CERTIORARI—Filed October 15, 1945

The order of October 8, 1945, denying the petition for writ of certiorari in this case is vacated and the petition for writ of certiorari to the United States Circuit Court of Appeals for the Ninth Circuit is granted.

And it is further ordered that the duly certified copy of the transcript of the proceedings below which accompanied the petition shall be treated as though filed in response to such writ.

Mr. Justice Jackson took no part in the consideration or decision of this application.